B1 cont.

the rotating electric machine includes at least two electric windings that respectively generate said stator flux and said air gap flux, said at least two electric windings including

an electric conductor,

a first semiconducting layer configured to surround said electric conductor,

an insulating layer configured to surround said first semiconducting layer, and

a second semiconducting layer configured to surround said insulating layer,

and

said rotating electric machine is configured to be directly connected to at least one of a distribution network and a transmission network.

34. (Once Amended) The system according to claim 33, wherein a potential of said first semiconducting layer is substantially equal to a potential of said electric conductor.

35. (Once Amended) The system according to claim 33, wherein said second semiconducting layer is configured to form a substantially equipotential surface surrounding said electric conductor.

36. (Once Amended) The system according to claim 35, wherein said second semiconducting layer is connected to a node at a predetermined potential.

37. (Once Amended) The system according to claim 36, wherein said predetermined potential is a ground potential.

B1 cont.

38. (Once Amended) The system according to claim 33, wherein at least two adjacent layers of said at least two electric windings of said rotating electric machine have substantially identical coefficients of thermal expansion.

39. (Once Amended) The system according to claim 33, wherein said electric conductor further comprises a plurality of strands and at least two strands of said plurality of strands are in electric contact with one another.

40. (Once Amended) The system according to claim 33, wherein said first semiconducting layer, said insulating layer, and said second semiconducting layer are secured to at least one adjacent layer selected from a set of said first semiconducting layer, said second insulating layer, and said second semiconducting layer along a substantially whole contact surface.

41. (Once Amended) A system configured to control a speed of a rotating electric machine, comprising:

a flux generation mechanism configured to generate a stator flux and an air gap flux of the rotating electric machine during operation of the rotating electric machine, the stator flux and the air gap flux providing a flux having at least two vectorial quantities, wherein

the rotating electric machine includes at least two electric windings of a high-voltage cable that respectively generate said stator flux and said air gap flux, said high-voltage cable including

a current-carrying conductor comprised of a plurality of strands,

a first semiconducting layer arranged around said current-carrying conductor,

B/ cont'd

an insulating layer of a solid insulating material arranged around said first semiconducting layer, and

a second semiconducting layer arranged around the insulating layer, and

said rotating electric machine is configured to be directly connected to at least one of a distribution network and a transmission network.

42. (Once Amended) The system according to claim 41, wherein said high-voltage cable is flexible.

43. (Once Amended) The system according to claim 42, wherein said first semiconducting layer, said insulating layer, and said second semiconducting layer are arranged to adhere to at least one other layer selected from a set of said first semiconducting layer, said insulating layer, and said second semiconducting layer when said high-voltage cable is bent.

44. (Once Amended) The system according to claim 41, wherein said rotating electric machine comprises:

an extra winding arranged on a stator of said rotating electric machine; and

a magnetization apparatus connected to said rotating electric machine;

wherein a first flux vector of said at least two vectorial quantities is generated via said extra winding and said magnetization apparatus and a second flux vector of said at least two vectorial quantities is generated via said at least two electric windings.

45. (Once Amended) The system according to claim 44, wherein said magnetization apparatus is a first frequency converter.

47. (Once Amended) The system according to claim 46, wherein:

said rotating electric machine is an asynchronous rotor; and

said auxiliary feeder includes a stator winding and a permanent magnet rotor connected to said asynchronous rotor.

49. (Once Amended) The system according to claim 33, wherein:

said at least two electric windings are flexible; and

said first semiconducting layer, said insulating layer, and said second semiconducting layer make contact with at least one neighboring layer selected from a set of said first semiconducting layer, said insulating layer, and said second semiconducting layer.

50. (Once Amended) The system according to claim 49, wherein said first semiconducting layer, said insulating layer, and said second semiconducting layer are made of a plurality of materials with a plurality of elasticities and a plurality of coefficients of thermal expansion configured to absorb volume changes of said first semiconducting layer, said insulating layer, and said second semiconducting layer caused by a temperature variation during an operation such that said first semiconducting layer, said insulating layer, and said second semiconducting layer remain in contact with one another over an operational temperature range.

51. (Once Amended) The system according to claim 50, wherein the plurality of materials in said first semiconducting layer, said insulating layer, and said second semiconducting layer have a plurality of high elasticities.

B3 cncl'd.

52. (Once Amended) The system according to claim 50, wherein said first semiconducting layer and said second semiconducting layer are configured to form substantially equipotential surfaces.

53. (Once Amended) A method for speed control of a rotating electric machine configured to be directly connected to a distribution network, comprising:

generating at least two vectorial quantities which constitute a resultant flux of said rotating electric machine during an operation, wherein said rotating electric machine has at least two electric windings, each winding generating a respective one of said at least two vectorial quantities and including

at least one electric conductor,

a first semiconducting layer arranged surrounding said electric conductor,

an insulating layer surrounding said first semiconducting layer, and

a second semiconducting layer arranged surrounding said insulating layer.

54. (Once Amended) A method for speed control of a rotating electric machine configured to be directly connected to a distribution network and having at least two electric windings formed from a high-voltage cable including at least one current-carrying conductor wherein said at least one current-carrying conductor includes a plurality of strands, a first semiconducting layer arranged around said at least one current-carrying conductor, an insulating layer made of a solid insulating material arranged around said first semiconducting layer, and a second semiconducting layer arranged around said insulating layer, said method comprising the step of:

generating at least two vectorial quantities that form a resultant flux of said rotating electric machine during an operation.

B4

67. (Once Amended) A system configured to control a speed of a rotating electric machine included in the system, comprising:

means for generating a flux composed of at least two vectorial quantities for said rotating electric machine during an operation of said rotating electric machine; and

at least two electric windings, wherein said at least two electric windings respectively generate said at least two vectorial quantities and include,

means for conducting electricity,

means for connecting a semiconductor to said means for conducting electricity,

means for insulating means for connecting, and

means for creating an equipotential surface around said means for insulating,

wherein said rotating electric machine is configured to be directly connected to a distribution network.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 33-67 are pending, Claims 33-45, 47, 49-54, and 67 having been amended by way of the present amendment.

In the outstanding Office Action, Claims 33-67 were objected to as containing informalities; Claims 41-48 and 67 were rejected under 35 U.S.C. §112, second paragraph; Claims 33-43, 49-54 and 67 were rejected under 35 U.S.C. §103(a) as being unpatentable over Elton et al. (U.S. Patent No. 4,853,565, hereinafter Elton) in view of Thomas et al. (U.S.